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ABSTRACT

Although it is inevitable that siblings who live in the same family and enter the same school can hardly avoid being measured with each other by peers, teachers, and parents, data on school-aged siblings is rare. To extend the knowledge of sibling relationships, the relationships of classroom acceptance, visibility, and academic achievement between siblings was examined in 105 sibling dyads, grades two through six, who were in the same elementary school at the same time. The sibling dyads were a subset of a larger school sample who had responded to a questionnaire designed to assess social acceptance and social impact. Sibling data from the questionnaire consisted of acceptance scores based on predominance of either acceptance or rejection responses from peers and social visibility scores based on the number of children who mentioned a given sibling either positively or negatively. These acceptance and visibility scores were correlated with composite achievement test scores. The results indicated that siblings in middle childhood had similar and highly correlated elementary classroom acceptance scores but dissimilar classroom visibility and academic achievement scores. For both visibility and achievement, younger siblings had significantly higher scores than did older siblings, suggesting that the higher achieving, younger siblings were more noticeable in the classroom but not necessarily accepted any differently from their older siblings. (Author/NRB)

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A Comparison of Classroom Acceptance, Visibility, and Achievement Between Siblings in Elementary School

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Running Head: ACCEPTANCE AND ACHIEVEMENT BETWEEN SIBLINGS

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Abstract

The purpose of this study was to investigate the relationship of classroom acceptance, visibility, and achievement between siblings in the elementary school. Subjects were 105 sibling dyads, grades two through six, who were in the same elementary school at the same time. The sibling dyads were a subset of a larger school sample who had responded to a questionnaire designed to assess social acceptance and social impact. Sibling data consisted of (a) acceptance scores based on predominance of either acceptance or rejection responses from peers and (b) social visibility scores based on the number of children who mentioned a given sibling either positively or negatively. These acceptance and visibility scores were correlated with composite achievement test scores. Results indicated that siblings in middle childhood had similar and highly correlated elementary classroom acceptance scores but dissimilar classroom visibility and academic achievement scores. For both visibility and achievement, younger siblings had significantly higher scores than older siblings.

A Comparison of Classroom Acceptance, Visibility, and Achievement Between Siblings in Elementary School

Most sibling research has focused on either birth order effects (Cicirelli, 1982; Sutton-Smith, 1982) or on the interactions of infant/toddler and preschool age siblings (Dunn, 1983; Dunn & Kendrick, 1982). Data on school age siblings are rare (Bryant, 1982). In fact, none of the classical theories of personality development considered siblings as important to social development (Lamb, 1982). Yet, it is inevitable that siblings who live in the same family and enter the same school can hardly avoid being measured with each other by peers, teachers, and parents. Certainly the estimated 80 percent (Dunn, 1983) of us who have grown up with siblings know first hand the influence of such a relationship, especially during the school years. However, empirical examination of the interaction of siblings during the school years is sparse (Bryant, 1982).

From the birth order literature, the stereotypical image of siblings is that the older sibling tends to be more intelligent, achieves more, but is less popular among peers. Later borns are more popular but less intelligent (see review by Wagner, Schubert, & Schubert, 1982). However, birth order findings are so inconsistent (Wagner et al., 1982) and flawed methodologically (Murphy, Murphy, & Newcomb, 1937; Schooler, 1972; Wagner et al., 1982) that one needs to move beyond such data to understand sibling relationships.

For instance, from the literature on peer relations, one finds that children, regardless of birth order, who do well academically are also more likely to be popular (Austin & Draper, 1984; Green, Forehand, Beck, & Vosk, 1980; Hartup, 1970; Keislar, 1953). The question then can be asked, is the most popular sibling also likely to be the smartest?

To our knowledge, the only study which looked at both popularity and academic performance between siblings, was by Miller and Maruyama (1976) who found, among large samples of grade school age children (N=1750), that later born siblings were indeed more popular with their peers in terms of sociometrically derived "play" and "seating partner" choices than were older or first born siblings. Teacher ratings confirmed that later born siblings were more sociable and accepting. But, no relationships were found between ordinal position and academic achievement or IQ (Miller & Maruyama, 1976).

With only these data available, except for the questionable birth order findings, about siblings in the school context, we feel there is an urgent need for more research. Furthermore, we believe there is a need to use a broader measure of popularity. The concept is too narrowly defined in the social development literature as popular versus unpopular. A better definition has been used by Austin and Draper (1984), who examined degrees of acceptance or nonacceptance along with degrees of visibility or social impact of peers in the classroom with levels of academic

achievement. Their approach goes beyond the simplistic dichotomy of popularity versus unpopularity. For instance, based on a model devised by Peery (1979), children were categorized as popular, amiable, isolated, or rejected as a result of peer acceptance and social impact scores. Thus, children who have high social impact or visibility in the classroom coupled with high peer acceptance are categorized as popular. Those with low social impact but high acceptance are categorized as amiable. Children with high social impact and low peer acceptance are rejected, and children with low social impact and low peer acceptance are isolated. This type of classification clearly broadens our understanding of social status.

Thus, the purpose of the present study was to extend our understanding of sibling relationships by examining the relation of classroom acceptance and visibility of sibling dyads with academic achievement. We included academic achievement for two reasons. First, it is an objective indicator of school performance. Secondly, Ziglar and Trickett (1978), in their discussion of social competence have presented convincing evidence that cognitive and social competence, while independent constructs, are also related because they both are influenced by similar variables such as motivation, life experiences, and personality. They conclude that if one is assessing social competence (e.g. popularity), some achievement measure should be included because achievement reflects an important determinant of

social competence. Therefore, academic achievement scores as they relate to popularity between siblings were investigated.

Method

Subjects

Subjects included 105 sibling dyads or 51 male-female pairs, 18 where the male was older and 33 where the male was younger, and 54 same-sex pairs, 20 with both males and 34 with both females. All adopted children, step-siblings, and twins were excluded from the study. Also excluded were children who had two or more siblings in the same school. Thus, the study included only sibling dyads from grades two through six who were in the same elementary school at the same time, were living together at the time of the study, and were full brothers and sisters.

Sociometric ratings were collected from volunteer siblings and their classmates ($N=62^{5}$), grades two through six, from three elementary schools. Fifteen sibling dyads came from a Midwest elementary school. Ninety sibling dyads were from two contiguous elementary schools in the West, 16 from one school and 74 dyads from a second school. All classrooms involving the siblings were self-contained.

Instruments and Procedure

At the end of the school year, all children with parental permission were administered a sociometric instrument designed to give each child three separate peer visibility and three separate peer acceptance scores by having the children list positive and

negative peer ratings. While some investigators caution against using negative peer ratings, others (Coie, Dodge, & Cappotelli, 1982) feel they are necessary for clear delineation of status. The children named only same-sex children on the sociometric questionnaire and confined their ratings to their own grade. The questions asked were: Playmate choice = (1) Whom do you like to play with outside? (2) Whom don't you play with outside? Seatmate choice = (3) Whom do you like to sit next to in school? (4) Whom don't you sit next to in school? Overall choice = (5) When you can do anything you want to, with whom do you do it? (6) When you can do whatever you want to, with whom don't you do it? The children were given approximately 10 minutes to supply their written responses to the questionnaire. Composite scores on the Iowa Test of Basic Skills (Midwestern school) or the California Test of Basic SKills (Western schools) were collected on each sibling.

Scoring and Analysis

Peer acceptance scores for the siblings were computed by subtracting the number of times a sibling was named to each negative (even-numbered) item from its positive (odd-numbered) match. Visibility or social impact scores were obtained by summing the number of times a sibling was mentioned on both positive and negative items for each of the three pairs. Each score for every sibling was then divided by the number of participants for that classroom. Thus, each sibling had three

peer acceptance scores and three visibility or social impact scores. The point for the intersection of the visibility and acceptance scores was calculated for each classroom using the classroom visibility mean.

Depending on the distribution of the data, the acceptance and visibility scores for each sibling pair were compared through Pearson or Kendall correlations and matched-t or Wilcoxon paired comparison tests. Effects of sex and location (Midwest versus West) were tested through a MANOVA. The siblings were also separated into the sociometric categories of popular (high acceptance, high visibility), amiable (high acceptance, low visibility), isolated (low acceptance, low visibility), and rejected (low acceptance, high visibility). An ANOVA was performed to determine the relationship between sibling pairs according to sociometric category.

Results

Matched t-tests indicated nonsignificant differences and thus similarity between the older and younger siblings' three classroom acceptance scores. Pearson correlations were significant between the first two of these scores: playmate, r=.670, p<.0001; seatmate, r=.280, p<.004; overall choice, r=.175, p<.074.

Wilcoxon paired comparison tests and Kendall correlations were performed on the three visibility scores with significant differences on the Wilcoxon between younger and older siblings' classroom visibility for each score: playmate, z=-2.794, p<.005;

seatmate, z=-2.889, p<.004; overall choice, z=-3.303, p<.001). For each of the three visibility scores, the younger sibling was significantly more visible in the elementary classroom than the older sibling. Kendall correlation coefficients were not significant for any of the visibility measures.

Achievement scores differed significantly between siblings, $t(104)$=2.66, p<.009. Younger siblings had higher achievement scores (m=57.51, SD=28.54) than older siblings (m=49.08, SD=29.54). Effects of sex, location, and sex by location for all acceptance, visibility, and achievement scores were tested through a multivariate analysis of variance. All main effects and interactions were nonsignificant.

As previously mentioned, the visibility and acceptance scores were used to separate the children into the sociometric categories of popular, amiable, isolated, and rejected. An analysis of variance was performed to determine the relationship of sociometric placement of individual siblings dependent on sex and birth order between sibling pairs with the following model used: $Y = A(I) + B(J) + P(IJK) + C(L) + AB + E$ where A = sex of younger sibling, B = sex of older sibling, C = birth order, and P(IJK) = sibling pair number nested within sex of younger and sex of older cell, otherwise known as Error A. All main effects and interactions were nonsignificant.

Sibling pairs were then classified into pair types according to the visibility and acceptance scores of each sibling regardless

of birth order or sex. Thus, pairs were grouped into the following categories: neutral, or cases in which both siblings had a visibility score but an acceptance score of zero; both popular, or cases in which both siblings received a designation of popular; popular-amiable, in which one sibling was popular and one was amiable; both amiable; amiable-isolated; both isolated; rejected-isolated; both rejected; rejected-popular; rejected-amiable; popular-isolated. As shown in Table 1, siblings tended most often to be amiable-isolated, both amiable, or rejected-isolated $\underline{X}^2(10, \underline{N}=105) = 49.943$, $\underline{p}<.0001$.

Additionally, with the neutral or no acceptance score category omitted, approximately two-thirds of the pairs (68 percent) had similar acceptance score ratings (e.g. both positive = 35 percent; both negative = 33 percent) with varying degrees of visibility. The remaining 32 percent of the pairs had mixed acceptance scores, one member with a positive rating, the other with a negative rating with varying degrees of visibility. And, when the scores were similarly sorted for visibility alone, with varying degrees of acceptance, it was found that only 10 percent of the pairs both had high visibility scores. The largest proportion of pairs (50 percent) had low visibility scores and the remaining pairs (40 percent) had mixed (one member high, one low) visibility scores.

Insert Table 1 about here

Discussion

Siblings in middle-childhood, regardless of sex, had similar and highly correlated elementary classroom acceptance scores but dissimilar classroom visibility scores and academic achievement scores. For both visibility and achievement, younger siblings had significantly higher scores than their older siblings. Thus, the higher achieving, younger siblings were more noticeable in the classroom but not necessarily accepted any differently from their older siblings.

Although our measures of peer popularity were not comparable to those used by Miller and Maruyama (1976), we did find, as they did, that younger siblings were mentioned socially more often than were older siblings. Unlike Miller and Maruyama, we found a popularity/achievement association, with the younger siblings having higher achievement scores along with their higher social impact scores. This relationship between popularity and academic achievement is basically consistent with the peer literature (Green et al., 1980; Hartup, 1970; Keislar, 1953) wherein it has been reported that the most popular child is often the one who does best academically.

On the other hand, Austin and Draper (1984) when looking at acceptance and visibility among elementary school age peers in relation to academic achievement found that high achieving children, regardless of grade, were more accepted by their

classmates, but not necessarily more visible. In their study, the most visible children were the lower achievers. In the present study, the reverse was found: the most visible were the higher achievers. This apparent inconsistency needs to be tempered by noting that the low visibility, low achievement association is based on peer data, whereas the high visibility, high achievement finding are based on sibling data. It may be that one cannot generalize from peer relationships to sibling relationships and vice versa. Bryant (1982) has made the point that it is not clear how sibling relations influence interactions established with other children. Thus, the way siblings behave with one another is not necessarily the way siblings interact when with their peers.

Finally, even though between sibling dyad differences in terms of achievement and visibility as a function of ordinal position (younger versus older) was found, it is interesting to note that there also were large within pair similarities. That is, when the pairs were classified for similarity of sociometric ratings, we found that 68 percent of the pairs had similar acceptance scores, e.g. both were rated positively or both were rated negatively. Likewise, we found 60 percent of the pairs shared similar visibility ratings, e.g. 10 percent both had high visibility, 50 percent both had low visibility. This suggests that while differences may exist between older and younger siblings in terms of social impact and achievement, their overall popularity ratings tend to be in the same direction.

References

Austin, A. M. B., & Draper, D. C. (1984). The relationships among peer acceptance, social impact, and academic achievement in middle childhood. American Educational Research Journal, 21, 597-604.

Bryant, B. K. (1982). Sibling relationships in middle childhood. In M. E. Lamb & B. Sutton-Smith (Eds.), Sibling relationships: Their nature and significance across the life span (pp. 87-121). Hillsdale, NJ: Erlbaum.

Cicirelli, V. G. (1982). Sibling influence throughout the life span. In M. E. Lamb & B. Sutton-Smith (Eds.), Sibling relationships: Their nature and significance across the life span (pp. 267-284). Hillsdale, NJ: Erlbaum

Coie, J. D., Dodge, K. A., Coppotelli, H. (1982). Dimensions and types of social status: A cross-age perspective. Developmental Psychology, 18, 557-570.

Dunn, J. (1983). Sibling relationships in early childhood. Child Development, 54, 787-811.

Dunn, J., & Kendrick, S. (1982). Siblings: Love, envy, and understanding. Cambridge, MA: Harvard University Press

Green, K. D., Forehand, R., Beck, S. J., & Vosk, B. (1980). An assessment of the relationship among measures of children's social competence and children's academic achievement. Child Development, 51, 1149-1156.

Hartup, W. (1970). Peer interaction and social organization. In P. H. Mussen (Ed.), Carmichael's manual of child psychology. (3rd ed., Vol. 2, pp. 361-456). New York: Wiley.

Keislar, E. R. (1953). A distinction between social acceptance and prestige among adolescents. Child Development, 24, 275-284.

Lamb, M. E. (1982). Sibling relationships across the life span: An overview and introduction. In M. E. Lamb & B. Sutton-Smith (Eds.), Sibling relationships: Their Nature and significance across the life span (pp. 1-11). Hillsdale, NJ: Erlbaum.

Miller, N., & Maruyama, G. (1976). Ordinal position and peer popularity. Journal of Personality and Social Psychology, 33, 123-131.

Murphy, G., & Murphy, L. B., & Newcomb, T. (1937). Experimental social psychology. New York: Harper.

Peery, J. C. (1979). Popular, amiable, isolated, rejected: A reconceptualization of sociometric status in preschool children. Child Development, 50, 1231-1234.

Schooler, C. (1972). Birth order effects: Not here, not now! Psychological Bulletin, 78, 161-175.

Sutton-Smith, B. (1982). Birth order and sibling status effects. In M. E. Lamb & B. Sutton-Smith (Eds.), Sibling relationships: Their nature and significance across the life span (pp. 153-165). Hillsdale, NJ: Erlbaum.

Wagner, M. E. Schubert, H. J. D., & Schubert, D. S. P. (1979). Sibship-constellation effects on psychosocial development, creativity, and health. In H. W. Reese & L. P. Lipsitt (Eds.), Advances in Child Development and Behavior, 14, 57-148.

Zigler, E. & Trickett, P. K. (1978). IQ, social competence and evaluation of early childhood intervention programs. American Psychologist, 33, 789-798.

Table 1: Sibling Sociometric Types Regardless of Birth Order and Sex

Category	Pairs Observed	Expected	Residual
Both Popular	3	9.55	-6.55
Popular-Amiable	14	9.55	4.45
Both Amiable	18	9.55	8.45
Both Isolated	12	9.55	2.45
Rejected-Isolated	18	9.55	8.45
Both Rejected	3	9.55	-6.55
Amiable-Isolated	20	9.55	10.45
Rejected-Popular	4	9.55	-5.55
Rejected-Amiable	4	9.55	-5.55
Popular-Isolated	4	9.55	-5.55
Neutral	5	9.55	-4.55
Total	105		

Chi-Square (10, N=105) = 49.943, p< .0001.